The Missing Link:
Intangible Assets, Contractual Agreements and the Transfer Pricing Puzzle

by

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ABSTRACT

Globalization and changes in the nature of international business have had profound effects on the way global firms operate. Specifically, evolving technology and producer 'capabilities,' consumer demands, resource availability and a series of other factors changed both what products, and increasingly, services were produced, as well as how they were produced. One of the implications of this evolution is the increased role played by intangible productive assets – which include: patents, trademarks, production processes and market or industry expertise. In light of this, the aims of this thesis are two-fold. *First*, I seek to examine the absolute and relative growth of royalty and license fee payments (as a reflection of the shifting of intangible assets) into the United States between 1988 and 2010 as well as the associated geographic trends and patterns. The *second aim* is to understand transfer pricing practices and more specifically their relationship to intangible productive assets. The study concludes that there have been significant absolute and relative increases in royalty and license fee payments into the U.S. since 1988. Furthermore, certain regions and countries emerge as primary recipients of intangible property from the U.S. The novelty of the analysis carried out in this research is drawing a connection – the missing link – between the symptoms of what we will see are profit shifting activities that have the effect of separating profits from the regions in which productive activities occur and resources are consumed (resulting in the depletion of national tax bases relied on by countries to fund economic development) and the root causes – the processes of globalization, the changing nature of business and the ways firms operate. Avenues for further research are provided in the conclusion.

1. INTRODUCTION

Over the course of the 20^{th} century the global economy experienced a series of important and interrelated changes. Improvements in communications and transportation technologies enabled firms to realize their desires to operate globally and locate (or relocate) their operations in regions offering optimal returns to capital. This was the dawn of the modern multinational corporation and since then, they have only grown in size, power and international 'reach.' In appearance, their global reach seems limitless, and to some extent it actually is.

Furthermore, evolving technology and producer 'capabilities,' consumer demands, resource availablilty and a series of other factors changed both what products, and increasingly, services were produced, as well as how they were produced. In contrast to more traditional manufacturing industries, knowledge based goods and services industries, rely increasingly on advanced technologies. One of the implications of such a shift is the increased role played by intangible productive assets – which include: patents, trademarks, production processes and market or industry expertise (OECD 2010). Today, multinational firms are dependent on these intangibles as they factor heavily into their profitability.

These intangible productive assets and the contractual agreements with which they are associated have received increased attention from scholars and policy makers alike for a number of reasons, including their ease of mobility and the numerous, extremely diverse other advantages they provide. Multinational firms are also able to restructure themselves and shift the location of these intangibles allowing firms to essentially separate their profits from the regions where they are 'actually' earned and realize significant taxation related advantages.

Increasingly, firms are employing contractual agreements to shift intangible assets primarily into lower tax jurisdictions with the intention of achieving higher after tax profits. International tax regulations, namely, the OECD Transfer Pricing Guidelines, while comprehensive, permit this practice as the valuation of intangible assets is extremely complex in comparison to tangible ones such as pieces of machinery, production facilities or, more broadly, physical capital. The implications of these transfer pricing practices, specifically involving intangible assets are numerous for the development and maintenance of a functional, healthy tax base used for funding public programs, infrastructure investments, etc. These implications are most obviously manifested in developing nations where economic development, which is closely tied to the generation of tax revenue to sustain 'development programs,' is essentially a catalyst for long term, sustainable development.

The aims of this honours thesis are two-fold. *First*, in light of changes in the global economy and international business, more specifically, the growing importance of intangible productive assets, I seek to examine the absolute and relative growth of royalty and license fee payments into the United States between 1988 and 2010 as well as the geographic trends and patterns associated with changes in these payments. More precisely, the study will examine the geographical origins of the royalty and license fee payments entering the United States and the changes they have exhibited over the 22 year period of study.

The study focuses on royalty and license fee payments because they provide us with an accurate indication of the licensing and more broadly transferring of intangible property by means of contractual agreement.

Considering the significant body of research related to globalization and international business, which highlights the growing importance of intangible productive assets, I anticipate that royalty and license fee payments into the United States will grow substantially between 1988 and 2010 and furthermore these payments will increase relative to total trade in private services. That is, royalties and license fee payments will grow to account for a greater portion of corresponding total trade in private services over the period of study. Predicting the geographic trends that emerge as a result of changes in the importance of intangibles is more difficult, however it is expected that certain regions (i.e. countries) will emerge as primary sources of royalty license fee payments.

The *second aim* is related to the aforementioned transfer pricing practices. The goal here is to understand transfer pricing practices and more specifically their relationship to intangible productive assets. More specifically, I will consider both the development implications of transfer pricing practices, as well the way in which they are related to recent changes in the global economy.

Royalty and license fee payments indicate the existence of contractual agreements which, among other things, are used to shift intangible property across geographic borders. Through these contractual agreements firms can effectively restructure themselves in such a way whereby they can benefit from transfer pricing practices and shift their 'profitability' to a lower tax jurisdiction and ultimately maximize their after tax profits.

The novelty of the analysis carried out in this research is drawing a connection – the missing link so to speak – between the symptoms of what we will see are profit shifting (through asset transfers) activities and their root causes. The symptoms of profit shifting activities are, most notably, the separation of profits from the regions of production and the subsequent depletion of national tax bases. The root causes, on the other hand, include the processes of globalization, the changing nature of business in terms of both scale and scope and the ways in which firms operate. While quantifying this relationship, beyond what I have done with the available royalty and license fee data, is beyond the scope of the research, the study serves essentially as an embryonic contribution for future, more focused research.

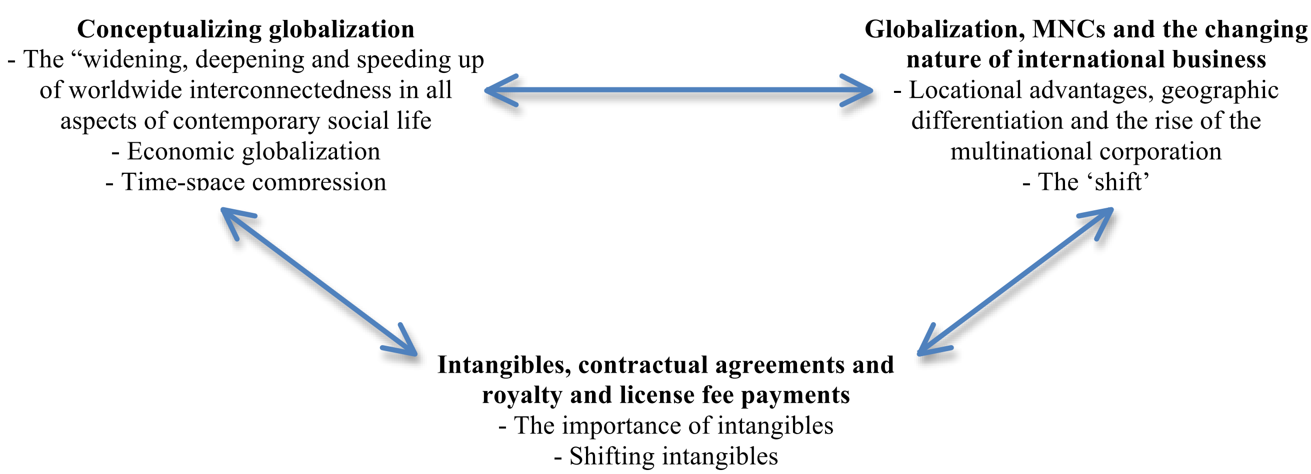
The thesis is organized into six sections. The next section is a literature review, which begins by exploring the process of globalization and some of its consequences. The focus is then refined to examine changes in the global economy and the nature of international business, paying special attention to the increasing importance of intangible productive assets. Section 3 describes the data used in the following study and study design. The fourth section presents the results of the graphic analysis and highlights some of the key findings. Section 5 (*Transfer Pricing – The Missing* Link) addresses the second focus of the thesis, i.e. the relevance of transfer pricing in light of the importance of intangible productive assets. The final section summarizes the main findings of the study and provides suggestions for future study.

2. LITERATURE REVIEW

2.1. Introduction

The literature review is divided into three subsections, with each subsection dedicated to a different body of literature. The intention is to introduce and define basic concepts and terms imperative to the argument developed in the thesis. *Figure 2.1.* below presents a visual summary of the various bodies of literature explored. *Conceptualizing Globalization* explores the notion of globalization, the processes and outcomes with which it is so closely associated and provides a more focused definition for the concept of *economic globalization*. *Globalization, Multinational Corporations and the Changing Nature of International Business* addresses changes in international business related to firms' desires to operate globally and the subsequent rise of the multinational corporation, as well as the prominent shift in production to more knowledge/technology-intensive goods and services. Finally, in light of the preceding two sections, *Intangibles, Contractual Agreements and Royalties and License Fee Payments* explores the increasing importance of intangible productive assets in large part due to the aforementioned shift, and explains the role of contractual agreements in shifting these assets globally.

Figure 2.1. Structure of the literature review



2.2. Conceptualizing globalization

There is little doubt that globalization has changed and re-defined the world in which we live. Despite this realization, we are still faced with great difficulty when attempting to grasp the nature and significance of this phenomenon. Dicken (2004) observes that the term globalization is often used as something of a 'catch-all' term in an ambiguous and non-specific way to explain each and every change so much so that it has reached the point where the term itself is rendered almost meaningless. In similar fashion, Held et al. (1999) assert that the casual and frequent use of the term *globalization* has rendered it almost cliché: it is 'the big idea' that explains or is attributable to everything around us, but provides little in the way of "substantive insight into the contemporary human condition."

All that being said, efforts have been made to provide some clarity to the term and provide a better definition or understanding of the 'phenomenon' that is globalization. Most broadly, globalization refers to the "widening, deepening and speeding up of worldwide interconnectedness in all aspects of contemporary social life" (Held, et al. 1999). This conceptualization of globalization implies that not only has there been a geographic proliferation of social, political and economic activities, relationships and networks, but, more importantly, that this proliferation is increasingly regular, less random and is growing in magnitude. Furthermore, the speed with which this proliferation is occurring has been greatly enhanced by advances in transportation and communications technologies (Held et al. 1999; Dicken 2004; Harvey 2010). With this in mind, it can be inferred that globalization itself is, as Dicken (2004) states, "a syndrome of processes and outcomes." That is, globalization is not a one-dimensional phenomenon, rather, a series of processes, events and occurrences that produce distinct outcomes, geographic and otherwise (Dicken 2004).

Moving beyond this initial conceptualization, it is possible to narrow the scope of study and focus on developing an understanding of globalization as it is applicable to the following study. Perhaps the most useful conceptualization of globalization, given the context within which we are working, is provided by Yeung (2002). He defines *economic globalization* as "the rapid proliferation of cross-border production, trade and investment activities spearheaded by global corporations and international financial institutions that facilitate the emergence of an increasingly integrated and interdependent global economy" (Yeung 2002). Inherent in this definition of *economic globalization* is the notion that multinational firms, and to some extent, international financial institutions assume a ‘transformative role’ and are seen as central to the processes of globalization (Yeung 2002; Held et al. 1999; Dicken 2007). In turn, it can be inferred that these firms and institutions are effectively the primary ‘drivers’ of globalization. The specificities of this notion will be discussed in greater detail later in this section.

The final piece of the globalization puzzle, it would seem, is determining what factors or developments have enabled globalization to not only occur, but become the pervasive phenomenon it is. Harvey (2010) theorizes that a phenomenon he calls *time-space compression* is this final piece. The process of capital accumulation is facilitated, even driven by geographic differentiation such that and firms have an incentive to take advantage of this geographic differentiation. Certain conditions must exist that actually allow firms to realize these advantages. Globalization, by way of the processes and outcomes with which it is so closely related, is a process that is – all be it unevenly – rooted in both space and time (Dicken 2004; Harvey 2010). Inherent in space and time are ‘frictions’ or obstacles that manifest themselves in physical distances and the relative speed at which communications, transactions and the like can occur. Throughout time, advancements in communication, information and transportation technologies gradually reduce the effects of the aforementioned frictions of both space (distance) and time. The end result is the “circumvention of all temporal and spatial limits to capital” (Harvey 2010). He asserts that corporations operate in a “world in which capital moves faster and faster and where distances of interaction are compressed” (Harvey 2010). This is *time-space compression* – functionally, the world is getting smaller, distances have shrunk exponentially and information can be shared and transactions can occur at an unbelievably rapid pace. Essentially, this process of *time space compression* has allowed firms to capitalize on opportunities that exist as a result of geographic differentiation.

2.3. Globalization, multinational corporations and the changing nature of international business

Economic globalization is not accidental. That is, the processes and outcomes associated with globalization are the result of premeditated decisions emanating from the desires of individuals and corporations to achieve specific results and objectives. These individuals and corporations, including multinational enterprises, are profit maximizers whose bottom line and competitiveness are derived from their ability to exploit a specific set of competencies or advantages. This capability is a product not only of the nature of these competencies or advantages, but *where* they are employed and exploited. Different regions, in other words, present firms with unique advantages or benefits. Given this geographic differentiation, and the increasing mobility of capital, profit maximizing firms and individuals will seek out regions in which returns to investment can be maximized and where the potential for the further accumulation of wealth and the realization of surplus value is greatest. It is for this reason that multinational enterprises are seen as the 'drivers of globalization.'

The subsequent section addresses first, the evolution of multinational firms, their structure and the deterministic role they assume in international business. Secondly, it addresses the changing nature of international business paying particular attention to the 'shift' away from lower-skilled manufacturing activities to the production of higher-skilled, increasingly capital and knowledge intensive goods and services that has occurred in advanced economies. A discussion of the implications of this shift on multinational firms and, more broadly, international business and economic activity is also provided.

Multinational corporations are firms that operate and control entities and subsidiaries in several countries, locating manufacturing, research and development, advertising and other production activities across the globe. There are numerous reasons for firms to operate globally, the most significant being the opportunities for profit maximization and coping with the competitive pressures inherent in capitalism (Dicken 2003; Held et al. 1999). These multinational firms, as they exist in their present form, are a relatively recent phenomenon, growing substantially in number and size primarily since the Second World War. Today, these firms play a key role in the processes of economic globalization and are seen as the drivers of international trade. Overall, multinational firms are responsible for approximately two-thirds of world trade (Held et al. 1999). Furthermore, these firms are in large part responsible for a great deal of global research and development activity, along with the diffusion of innovation all over the world (Held et al. 1999).

A common misconception associated with many international firms is the notion that their geographically diverse and widespread activity, that is the increasingly deep integration of these firms globally, has rendered them 'placeless' (Dicken 2007). It is important that this notion be dispelled. Multinational firms, while massive in scale and geographic scope, remain anchored in one particular place or 'home-base' that exercises considerable influence upon the activities of these firms and the way they conduct themselves both locally and globally (Dicken 2007). This myth of the 'placelessness' of multinational corporations presents challenges to those responsible for regulating these firms. Not only are firms influenced by their surroundings, they are accountable to local institutions and must abide by local regulations.

It is understood that multinational corporations play a prominent role in the process of globalization (Yeung 2002; Held et al. 1999; Dicken 2007). That being said, the question that is yet to be answered is what leads firms to globalize? What incentives do they have to integrate into global markets? The answer to this question lies in the competitive nature of firms and their desire to maximize profits and out-perform rivals (Dicken 2004, 2007; Storper 1997). Such competition, Dicken (2003) argues, is (1) increasingly global and (2) increasingly volatile. This creates an environment of 'hyper-competition' where advantages achieved by firms are relatively short-lived which means that firms must act and react quickly to sustain a competitive advantage over others (Dicken 2003). Capital itself is extremely dynamic and is in constant pursuit of optimal locations where efficiency and returns can be maximized. Firms, enabled by the increased mobility of capital, then seek out those regions where returns to investment and, ultimately, profits will be as substantial as possible. The reality is, as Harvey (2010) argues, that differences exist and must exist, across regions for the process of capital accumulation to occur. As a result, by locating in specific regions and shifting capital between them, firms can generate gains.

In a classic paper, Ann Markusen (1996) explores in greater detail the factors that influence a region's ability to retain and maintain productive capacity. She argues that regions possess unique characteristics that for a variety of reasons present capitalists with a series of advantages. These factors range from proximity to tangible inputs and access to specific types of labour to government support and public infrastructure.

Firms, motivated by competition and the desire to outperform others in order to maximize profits, will shift productive resources to regions that present them with the greatest advantage. Advances in communications and transportation technologies, which themselves are in large part due to the activities of multinationals, have allowed firms to not only locate productive assets in multiple regions, but shift productive assets around with little or no difficulty.

In recent years, two dramatic shifts in the nature of international business and international economics have occurred: (1) an increased focus on knowledge-, capital- and skillintensive industries and (2) the increased importance and prominence of the service industry (Dicken 2003). Dicken (2003) observes that multinational companies, given the capital and resource requirements associated with particular industries, have become increasingly involved in (i) knowledge-intensive sectors, namely pharmaceuticals, computers, scientific instruments, electronics and synthetic fibers; (ii) large-volume, medium technology consumer goods; and (iii) mass production consumer goods industries. Moreover, international foreign direct investment flows clearly show increased emphasis, especially in the developed world on the service industry, including financial services, trade-related services, telecommunication services, business services and other consumer services (Dicken 2003).

2.4. Intangibles, contractual agreements and royalties and license fee payments

One of the primary implications of the shift towards a more knowledge-based, service-oriented economy is the growing importance of intangible productive assets. Intangible productive assets are broadly defined by the Organization for Economic Cooperation and Development to include "industrial assets such as patents, trademarks, trade names, designs or models, as well as copyrights of literary, artistic or scientific work (including software) and intellectual property such as know-how and trade secrets" (OECD 2010).

Markusen (1995) asserts that these intangible, knowledge-based assets are extremely important and are "more likely to give rise to direct foreign investment than physical capital assets" (Markusen 1995). That is, intangibles are seen as a key determinant of the globalization of business activity. He points to two primary reasons for this. The first is the transferability of these assets, which will be discussed more below. With advances in technological capabilities, these assets can easily be moved around the world at relatively low costs. Secondly, he points to what he refers to as the 'joint character of knowledge' – i.e. the notion that "knowledge can be supplied to additional production facilities at a very low cost" (Markusen 1995).

Intangibles can be further divided into two sub-classifications; *hard* intangibles, which include the patents, trademarks, trade names, designs and models, and *soft* intangibles, which can broadly be considered to be manifestations of knowledge and expertise. (HM Revenue and Customs 2012, Drewno 2010) The primary difference between these two types of intangibles is the ways in which they may be legally protected. Laws provide *hard* intangibles with clear definition and consequently allow the owner to be legally protected and insure that others are legally prohibited from using them as well, where as *soft intangibles* may not be legally protected. Increasingly, multinational firms' profitability is being derived from their ability to exploit both these *hard* and *soft* intangibles, as both are extremely valuable and may be easily transferred internationally, allowing firms to reallocate profits without actually shifting the location of their tangible assets that are also instrumental in production processes (OECD 2012).

Soft intangibles can assume the form of locationally related advantages achieved by firms operating in a particular region or cluster where they can tap into 'knowledge spillovers' and flows of ideas and the inadvertent sharing of techniques present within the industrial environments. These advantages are derived from what economic geographers refer to as 'untraded interdependencies' (Storper 1997). These 'untraded interdependencies' reflect the sets of conventions, norms, informal rules, and habits, as well as the institutions and practices associated with the socio-cultural characteristics of a given region.

The primary challenge associated with these types of intangibles is the difficulty inherent in understanding and quantifying their tangible value. It is obvious that firms achieve some advantage or benefit from these soft intangibles. However, the extent to which this is true will not only vary from firm to firm dependent on their capabilities, but also from location to location which makes it extremely difficult to attach a value to them.

It has been observed that while distinctions can be made between *hard* and *soft* intangibles, it is exceptionally difficult to separate them in a functional sense. That is, the effective employment of *hard* intangibles essentially takes advantage of the so-called *soft* ones (Drewno 2010). Royalty and license fee payments, for example, illustrate the return on the use of hard intangibles, such as patents or trademarks. However, they may not accurately represent the use of both *hard* and *soft* intangibles to create incremental value in the places where the intangibles are employed. For instance, *hard* intangible assets may be exploited in such a way that the royalty payments misrepresent, usually undervalue, the returns generated through the use of the assets (Drewno 2010).

The analysis carried out in this thesis will focus primarily on the *hard* intangibles, as the data available for the flow of royalties and license fee payments provides us with an accurate indicator of contractual agreements involving said *hard* intangibles. *Soft* intangibles, while increasingly important, are difficult, if not impossible to quantify and are not accurately captured by any data that could be used as a proxy for their value or movement. That being said, it is apparent that greater attention must be, and is indeed being paid to these *soft* intangibles as individuals and organizations, notably the OECD, are becoming increasingly aware of their relative importance.

In the discussion of intangible productive assets it is imperative that the role and functionality of contractual agreements be discussed. One common type of contractual agreement involving the transfer of intangible property is a licensing agreement where a parent firm grants a subsidiary or unrelated party the rights to a specific piece of intangible property in exchange for royalty payments that theoretically reflect the value of the intangible property. Royalties are defined by the OECD as "payments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work including cinematograph films, any patent, trade mark, design or model, plan, secret formula or process, or for information concerning industrial, commercial or scientific experience" (HM Customs 2012).

In the simplest terms the relevance of contractual agreement lies in the fact that these agreements enable firms to shift their intangible property, and in turn their profitability, globally. This allows firms to achieve numerous locationally related production, distribution, advertising and like advantages as well as, increasingly, the benefits of strategic tax planning to minimize taxation liability and consequently maximize after-tax profits. This tax planning and more specifically the transfer pricing activities of multinational firms and the connection to intangibles and contractual agreements will be discussed in greater depth in *Section 5*.

In light of this review of relevant literature it would prove fruitful to revisit the aforementioned research aims and questions. Evidently, intangible assets have gained a new prominence with globalization and the related changes in the international economy. For that reason, exploring the shifting of intangible property (using royalties and license fee payments as an indicator) will provide insight into not only absolute and relative increases in the value of intangible property being transferred, but where this property is being transferred. Furthermore, I will explore business restructurings and transfer pricing practices and the advantages they present as a possible alternate explanation for the observed changes in the shifting of intangible property. In the following chapter, I discuss the data and the methods used to address and answer these questions.

3. METHODOLOGY

3.1 Data

This study employs two quantitative data sets, both published by the United States Bureau of Economic Analysis (BEA) for the years from 1988 to 2010. The decision to use secondary data is one made out of necessity. Given the global focus of the thesis and the need for international data, the option of collecting my own primary data was not a feasible one. Instead, I will draw on existing and available quantitative data from a reliable source – the United States Government.

The first data set contains information on the flow of royalties and license fees into and out of the United States organized by 'major country' for the years 1988, 1998 and 2010. The data is taken from the Balance of Payments and Direct Investment Position Data collected and published by United States BEA. Given the goal of the study, the following analysis will focus on payments of royalties or license fees into the United States.

The second data set concerns the United States' trade in private services. This data is used to determine the relative magnitude of the royalty and license fee payments entering the United States by considering the percentage of **corresponding** trade in private services accounted for by royalty and license fee payments.

Royalties and license fees are defined as the compensation a parent firm receives in exchange for granting a subsidiary or, in some cases, an unrelated party by means of a contractual agreement, the rights to use and exploit an intangible asset belonging to that parent. The following analysis will consider total (both related and unrelated party 'interactions') royalties and license fee payments into the United States as a representation of contractual agreements involving the shifting of intangible productive assets.

Various methods of graphic analysis will be used to illustrate the increase in the magnitude of royalty and license fee payments into the United States over time period from 1988 to 2010 as well as explore their changing geographic patterns.

Country-, region- and continental-level shapefiles published by ESRI are used to create the maps shown in the following sections. These shapefiles are publicly available via the ESRI website.

3.2. The study design

As we have come to understand, globalization has changed the nature of international business and the way in which firms structure themselves and operate globally. Intangible productive assets, both *hard* and *soft* are more important to a firm's profitability and productive capacity then at any point in history. That is, many firms' profitability is directly dependent upon their ability to not only develop these *intangibles* – patents, trademarks, copyrights, production techniques and knowledge or expertise – but also exploit them both domestically and globally.

Contractual agreements are the primary vehicle employed by firms to transfer these *intangible* assets from one party to the next. Such contractual agreements include, but are not limited to; licensing agreements in which one firm grants an affiliated firm (subsidiary) the rights to said intangible in exchange for compensation (i.e. royalties and license fees). The affiliate is then free to utilize and exploit that intangible in accordance with the terms of the agreement. It can then be inferred that the payment of royalties and license fees is an accurate indicator of the transfer of intangible property, as the payments of royalties are commonly associated with these transactions (HM Customs 2012).

The analysis undertaken in this thesis seeks to explore and explain the development and changes in the flows of intangible assets by focusing specifically on the payment of royalties and license fees to the United States from both foreign unaffiliated and affiliated parties (i.e. intra-company transfers of royalties and license fees from an affiliated entity/subsidiary – to the related parent). These flows will be examined over the period 1988 to 2010. In line with the existing economic geography and international business literatures, I expect to observe:

I. An increase in the absolute magnitude of the payments of royalties and license fees into the United States, which would be consistent with the increasing importance of intangible productive assets and the contractual agreements with which both the intangibles and the payments of royalties and license fees are associated.

II. An increase in the relative share of corresponding total trade in private services accounted for by royalty and license fee payments, which, like the anticipated absolute increases, would be in line with the increasing importance of intangibles.

III. An increase in the geographic concentration of the transfers themselves – i.e. the countries from which the royalties and license fees are emanating. That is, as multinational corporations continue to expand geographically certain countries will emerge as the primary recipients of intangible assets for numerous reasons.

3.3. Methods

The data obtained for royalty and license fee payments into the United States as well as the data for corresponding trade in private services was first consolidated into a single spreadsheet in order to simplify the process of working with the data itself. Once consolidated it was possible to begin calculating the three aspects of the data that are of greatest relevance to the research aims of the study. These are investigating; (1) the absolute changes in royalty and license fee payments into the United States, (2) changes in the relative shares of corresponding trade in private services accounted for by transactions involving royalty and license fee payments and (3) the relative proportion royalty and license fee payments accounted for by a specific area. For each of these, values will be calculated at the global-, regional- (i.e. continental) and national-level.

Absolute increases in royalty and license fee payments over a given period of time are expressed both as a change in ‘dollars’ and as percentage changes from a base year of 1988. The percentage change is calculated by subtracting the value of royalty and license fee payments in a specific year (Year ‘x’) from another year (Year ‘y’) and dividing that value by the value of payments in Year ‘x.’

To calculate the proportion of corresponding total trade in private services accounted for by royalties and license fee payments the value of the royalty and license fee payments are divided by the value of corresponding total trade in private services. Once this percent value is obtained, one can comment upon changes in the relative shares of corresponding trade in private services accounted for by transactions involving royalty and license fee payments by comparing values for the years studied.

Finally, the relative proportion of royalty and license fee payments into the United States accounted for by a specific area is calculated by dividing the value of payments from that particular area by the total value of these payments for a larger aggregated area. For example, calculating the relative share of European payments accounted for by one particular European nation is done by dividing that particular nation’s total by the European total.

The results obtained through the aforementioned calculations are expressed graphically in the following section as to present them with the greatest clarity while emphasizing the most relevant results. Three types of graphics are employed in illustrating the findings: (1) bar charts created using *Microsoft Excel* are used to illustrate absolute changes; (2) pie charts, also created in *Microsoft Excel*, are used to graphically represent changes in the relative (to private trade in services) value of these payments and, finally (3) maps created with *ArcMap* are employed to show the relative proportion of a given value of royalty and license fee payments into the United States accounted for by a particular region or country. These three types of graphics are employed in their respective contexts as they are best suited to 'reporting' each particular finding.

3.4. Specificities of the study

The decision to use the United States as the basis for the analysis (i.e. the destination of the payments) was based upon two primary factors. *First* was the availability of quality, detailed data. *Second* was the prominence of the United States, more specifically US multinational corporations in international trade and business activity. The United States BEA provided the most historically and geographically comprehensive data of any of the sources and agencies considered. This allowed for the analysis to be as accurate and complete, and ultimately meaningful as possible. Furthermore, the United States is understood to be one of the global centers, or *the* global center for international business activity and the home of numerous multinational corporations.

It is imperative to note that the data employed is 'aggregate level data,' that is, it is organized both by region and country. Using royalty and license fee payment information for individual companies' data is unrealistic given the consolidation of financial information by multinational corporations. That being said, the use of aggregate data does not impair the study in any way. The intention of following study is to identify and comment upon both increases in royalty and license fee payments into the United States and changes in their geographic pattern of payments. Therefore, while firm level data would have provided an interesting alternative approach (and is a possible avenue for further research), the aggregated data is more then sufficient to achieve the objectives of this study.

4. Data Analysis

4.1. Section overview

From the preceding sections it is understood that knowledge intensive and service-based industries have become a key component of international economic activity. Inline with this change is the notion that intangible productive assets are increasingly important to production and the profitability of multinational firms. As a result, firms are shifting these productive assets globally through the use of contractual agreements in order to achieve a series of advantages. Under the validated assumption that royalty and license fee payments are a 'manifestation' or 'proxy' for the shifting and location of intangible productive assets, the data collected by the United States BEA allows one to observe trends in the absolute and relative growth of global royalty and license fee payments and in their changing geographic 'pattern' over the past 22 years. More specifically, the following section will consider:

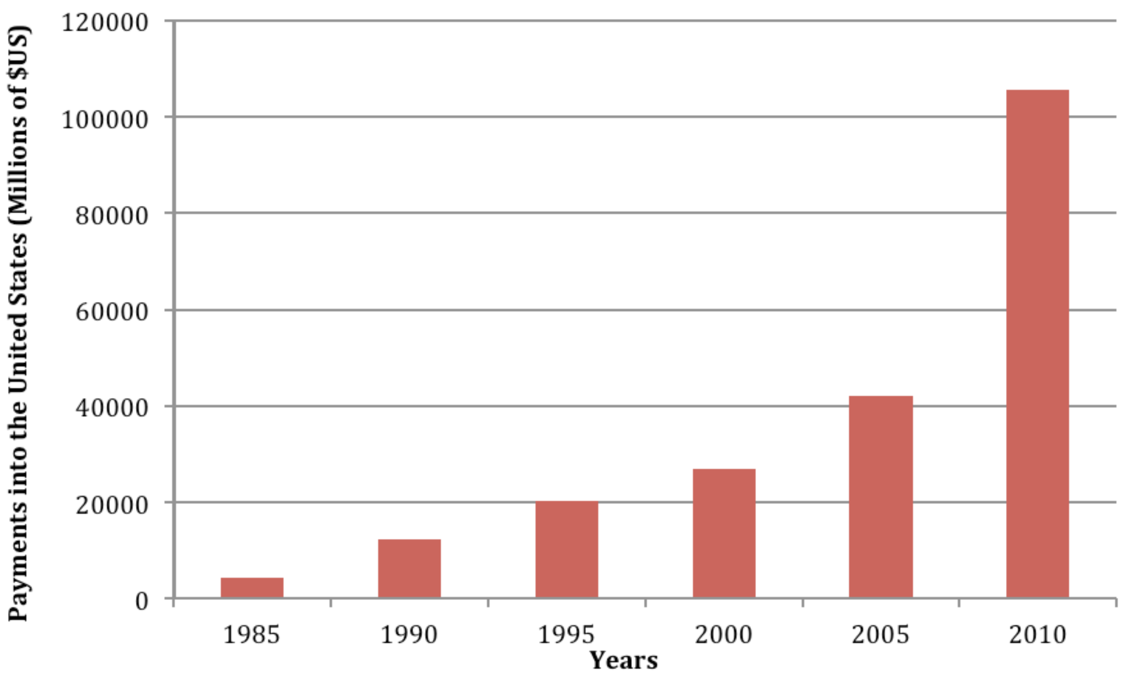
1. The absolute and relative increase in royalty and license fee payments into the United States.
2. Changes in the geography of royalty and license fee payments from a broad regional perspective.
3. Europe as the primary source of royalty and license fee payments to the United States and its evolution over the period of study.
4. A series of nations that garner specific attention as sources of royalty and license fee payments into the United States.

The changes observed throughout the following section regarding royalty and license fee payments into the United States are attributable to a number of things. Intangible productive assets, for which royalty and license fee payments are an accurate indicator, have become increasingly important determinants of several firms' profitability as the global economy has undergone a transformation. This transformation has seen the focus of economic activity shift away from low-skilled manufacturing activities to higher-skilled, more knowledge intensive manufacturing and service related activities. But this in itself does not explain why there have been such dramatic changes in the amount of intangible property moving across borders. There are several explanations, each applicable in different contexts, for the increases in the shifting of intangible assets. *First* is the ease with which these assets may be moved. Unlike tangible assets, such as physical capital, intangible assets are relatively easy and inexpensive to move. Firms have numerous incentives to transfer their intangible property. *Second*, firms have 'profit related' incentives to do so. These incentives are quite diverse in nature ranging from the desire to realize various production, advertising, distribution and like advantages associated with intangibles to, more recently, the after tax profit increasing practices associated with shifting intangible property to jurisdictions whose rules and regulations permit firms to reduce their exposure to taxation.

4.2. Absolute and relative increases in royalties and license fee payments

The most obvious trend in global royalty and license fee payments is the dramatic increase in the absolute amount of these payments emanating from global sources and entering the United States. In 1985, royalty and license fee payments entering the United States totaled US$ 4,344 million. By 2010, this total had increased to US$ 105,583 million, a remarkable increase of 2330.5 percent (see *Figure 4.1.*).

Figure 4.1. Total (related and unrelated) international royalties and license fee payments into the United States (Millions of US$)



Source: United States BEA, author's compilation.

Even more revealing than this massive absolute growth, is the relative increase of royalty and license fee payments as a share of total trade in private services. An increase in the relative size of these payments indicates that royalty and license fee payments into the United States, in addition to their massive absolute growth, have also increased at a disproportionate rate compared to total trade in services. Private trade in services includes, but is not limited to; education, financial services, insurance services, telecommunications and business, professional and technical services as well as royalties and license fees.[1]

Figure 4.2. International royalties and license fee payments into the United States as a percentage of total trade in private services (Millions of US$)

	1985	1990	1995	2000	2005	2010
Into the USA	4,344	12,224	20,328	26,843	42,189	105,583
Private Service Exports	Not Available	137,232	203,722	281,249	362,895	530,274
Percentage	Not Available	8.91%	9.98%	9.54%	11.63%	19.91%

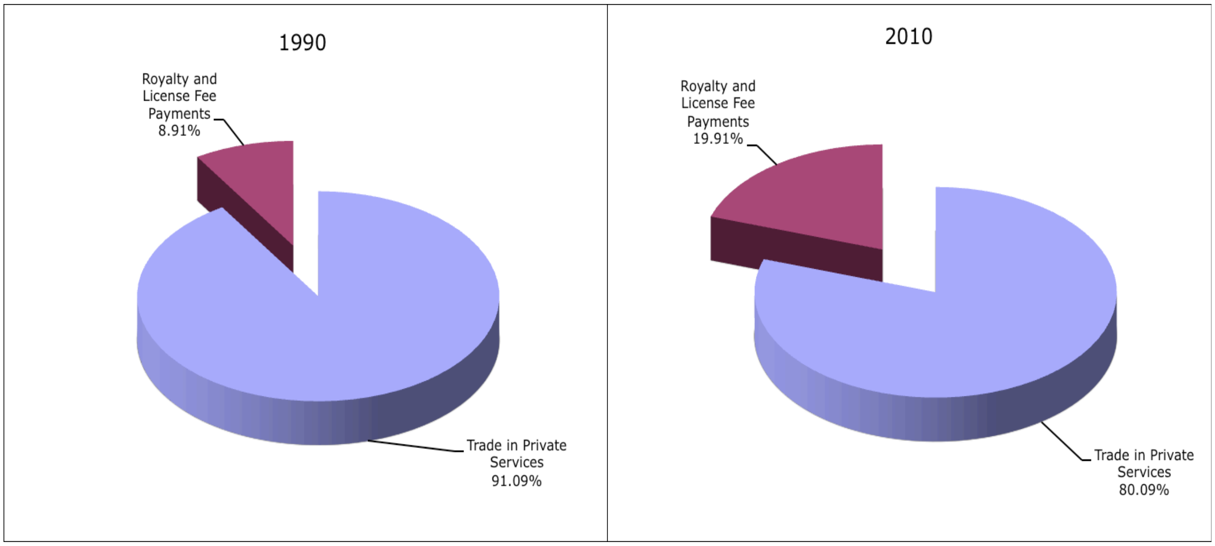
Source: United States BEA, author's calculation.

Of the US$ 137,232 million of total trade in services in 1990, 8.9 percent of that, or US$ 12,224 million was accounted for by royalty and license fee payments (see *Figure 4.2.* and *Figure 4.3.*). By 2005, this share had grown to 11.6 percent. Remarkably, in the five years following 2005, the relative share of royalty and license fee payments almost doubled, increasing dramatically to close to 20 percent (see also *Figure 4.3.*).

[1] The United States BEA defines *trade in private services* to include: (1) travel, (2) passenger fares, (3) other transportation, (4) royalties and license fees and (5) other private services, namely (i) education, (ii) financial services, (iii) insurance services, (iv) telecommunication and (v) business, professional and technical services.

[2] The aggregation Latin America and the rest of the Western Hemisphere includes South American Nations, Mexico, Bermuda, etc. Essentially it encompasses the entirety of North and South America less Canada and the United

Figure 4.3. International royalties and license fee payments into the United States as a percentage of total trade in private services (Millions of US$)



Source: United States BEA, author's compilation.

It is likely the case, as the literature reflects, that manifestations of knowledge, including but not limited to legally protective forms of intangibles, such as experience, know how, secret processes as well as traditional intangibles such has patents, industrial copyrights, trade marks and the like, play an increasingly prominent role in knowledge intensive manufacturing and services industries. One of the byproducts of the aforementioned shift towards more knowledge intensive manufacturing and service activities is that intangible property has become an increasingly important determinant of a firm's profitability. Another outcome, as the literature also discloses, is the increasing facility with which multinational enterprises separate these knowledge or intangible inputs from the physical manufacturing, sales, distribution and related activities of a traditional industrial economy. Through the use of contracts, multinational firms are able to displace their profits away from where traditional productive activity and production inputs are actually located.

Furthermore, multinational firms in particular, recognizing their reliance on intangible property, have organized themselves to allow this valuable 'input' to be located wherever is convenient for their organizational and financial objectives. Consequently, more and more intangible property is being shifted from one jurisdiction to another through contractual agreement. By transferring those intangibles, the associated profits (and what would also be local country tax bases that would fund public expenditures) are also shifted. It is not surprising then, considering this and the ease with which intangible property may be moved, that the amount of intangible property being transferred via contractual agreement has increased.

4.3. The changing geography of royalty and license fee payments

The United States BEA data employed for this study aggregates the royalty and license fee payment data into 5 geographic regions: Canada, Latin America and the Rest of the Western Hemisphere,[2] Europe, Africa and Asia and the Pacific.[3] The data is also available by country as well. However, royalty and license fee payment information is only available for larger economies, with smaller economies being grouped into the category ‘other’ for each region.

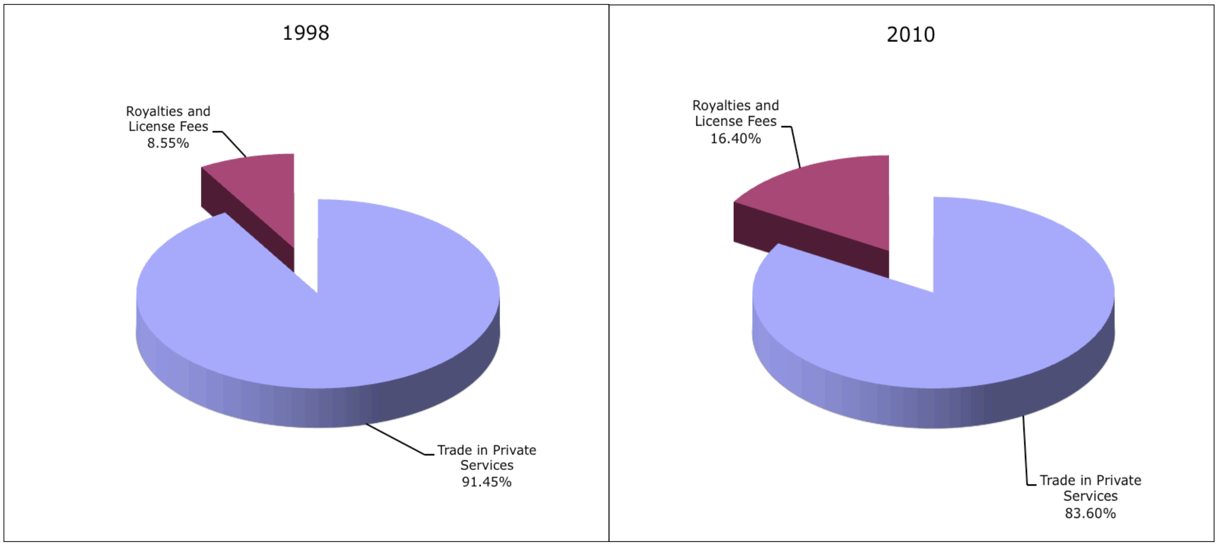
4.3.1. Regional trends

Within the information available for regional royalty and license fee payments into the United States there are essentially two avenues for exploration. The first considers the regions as ‘stand-alone’ entities. That is, examining both absolute and relative increases in royalty and license fee payments for each individual region since 1988. The second route is considering the regions in comparison to one another, that is the regions’ relative shares of global royalty and license fee payments into the United States.

Royalty and license fee payments from Canada into the United States grew from US$ 886 million to US$ 8,287 million between 1988 and 2010. This absolute increase of 835.3 percent is slightly larger then the global increase of 769.3 percent. Furthermore, royalties and license fee payments have also come to account for a larger portion of trade in private services (see *Figure 4.4.*).

[2] The aggregation Latin America and the rest of the Western Hemisphere includes South American Nations, Mexico, Bermuda, etc. Essentially it encompasses the entirety of North and South America less Canada and the United States. Canada is aggregated into region of its own.
[3] The aggregation Asia and the Pacific includes Asia ‘proper’ as well as Australia and New Zealand. Furthermore, though the BEA dataset separates the Middle East from the rest of Asia, I elected to include in the Middle East with Asia, as the Middle East is politically part of Asia proper.

Figure 4.4: Royalties and license fee payments into the United States as a percentage of trade in private services (Millions of US$) – Canada

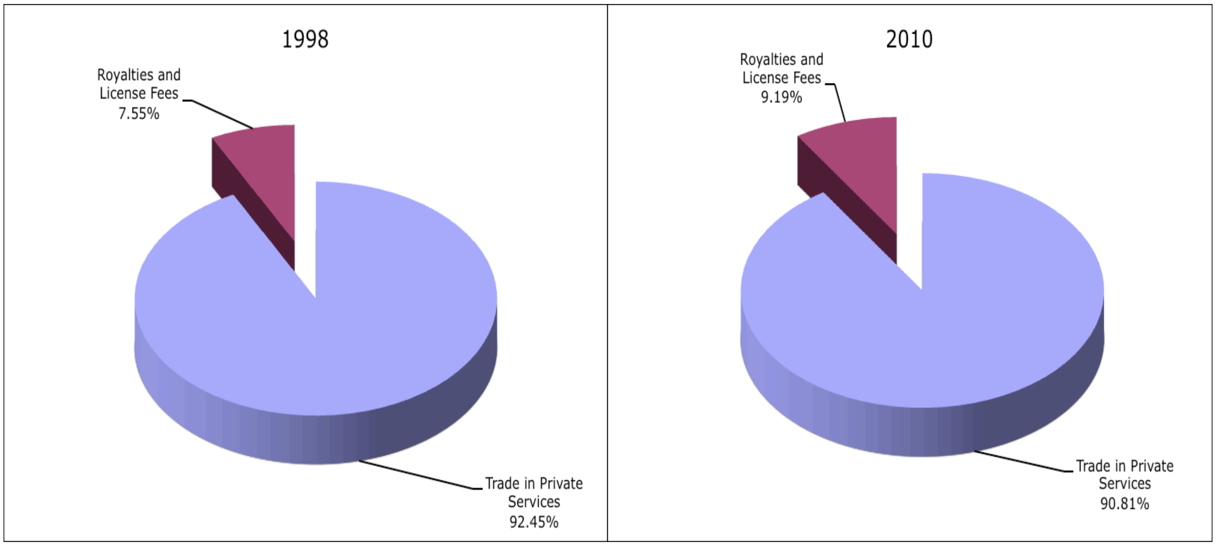


Source: United States BEA, author's compilation.

Africa has seen a massive absolute growth in royalty and license fee payments to the US over the 22 year period of study of 1392.8 percent. However Africa remains a relatively insignificant source of these payments[4] and furthermore, there has been little change in these payments in relative terms (see *Figure 4.5.*).

[4] Even in 2010, Africa only had a total of US$ 1,030 million in royalties and license fee payment to the United States – the smallest of any region by far.

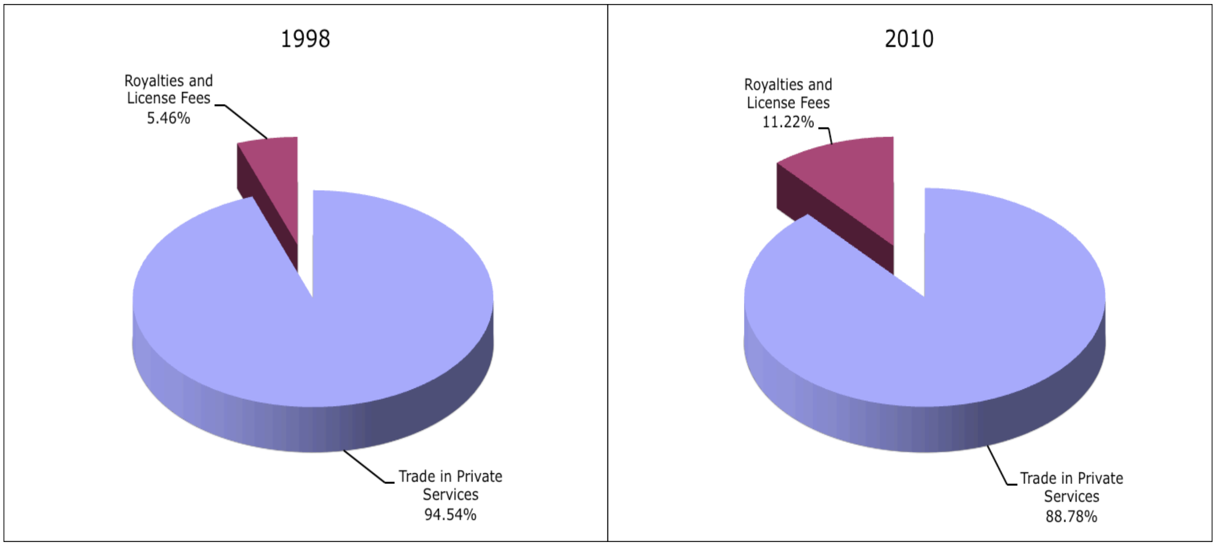
Figure 4.5. Royalties and license fee payments into the United States as a percentage of trade in private services (Millions of US$) – Africa



Source: United States BEA, author's compilation.

Latin America and the Rest of the Western Hemisphere experienced that largest absolute growth in royalties and license fee payments into the United States, with payments increasing from US$ 316 million in 1988 to US$ 11,857 million in 2010. This growth represents an absolute increase of 3652.2 percent over the 22 year period. In a relative sense, this region did see an increase. However, royalties and license fee payments still only accounted for 11.2 percent of their trade in private services, well below the other regions (see *Figure 4.6.*). It is interesting to note that Brazil exhibited the largest growth in royalty and license fee payments, increasing from US$ 25 Million (7.9 percent of this region's total) to US$ 3,123 billion (26.3 percent of the region's total).

Figure 4.6. Royalties and license fee payments into the United States as a percentage of trade in private services (Millions of US$) – Latin America

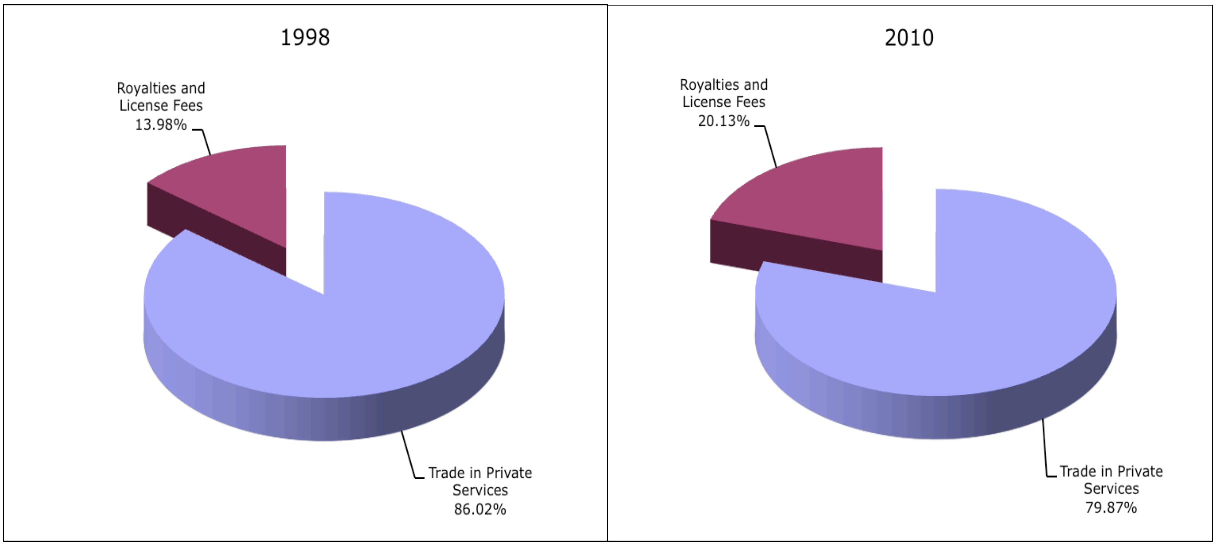


Source: United States BEA, author's compilation.

The increases exhibited by Brazil and really the Latin American region as a whole are simply a reflection of the overall growth of this nation/region. As the Brazilian economy has grown it is only natural that firms are locating an increasing amount of intangible property there.

Royalty and license fee payments into the United States from Asia and the Pacific increased in both an absolute – 792.7 percent – and relative sense. The US$ 31,317 million in royalties and license fee payments to the United States represents 20.1 percent of their trade in private services, which increased from 13.9 percent in 1998 (see *Figure 4.7.*).

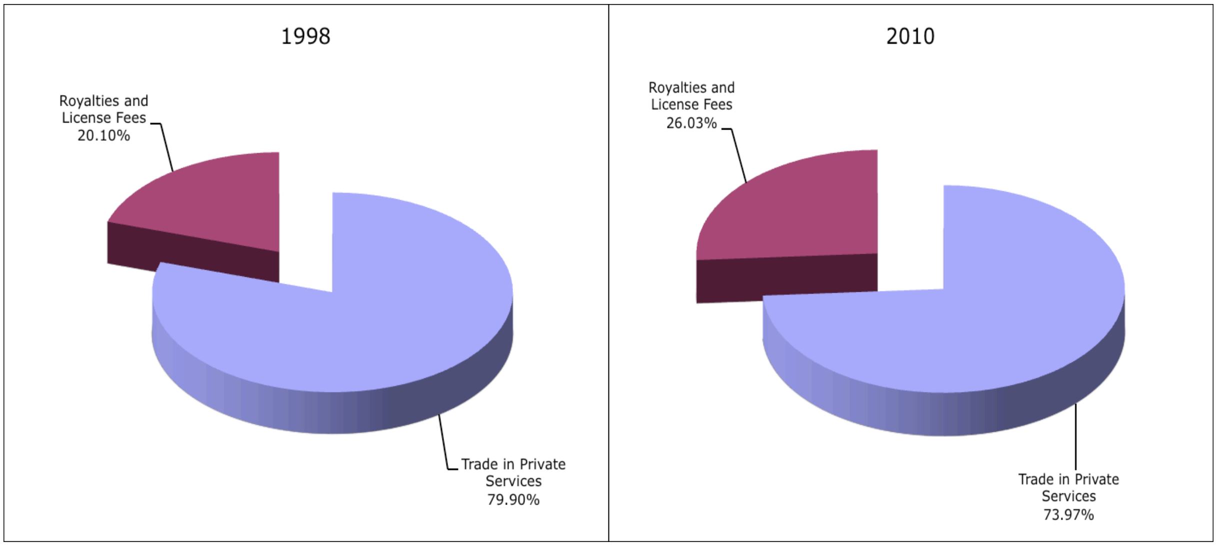
Figure 4.7. Royalties and license fee payments into the United States as a percentage of trade in private services (Millions of US$) – Asia and Pacific Nations



Source: United States BEA, author's compilation.

European royalty and license fee payments into the United States have increased a modest (relative to other regions) 682.8 percent since 1998. That being said, these payments have increased relative to trade in private services from 20.1 percent in 1998 to 26.0 percent (see *Figure 4.8.*). Furthermore, in 2010, European royalty and license fee payments into the United States were the largest of any region in an absolute and relative sense.

Figure 4.8. Royalties and license fee payments into the United States as a percentage of trade in private services (Millions of US$) – Europe



Source: United States BEA, author's compilation.

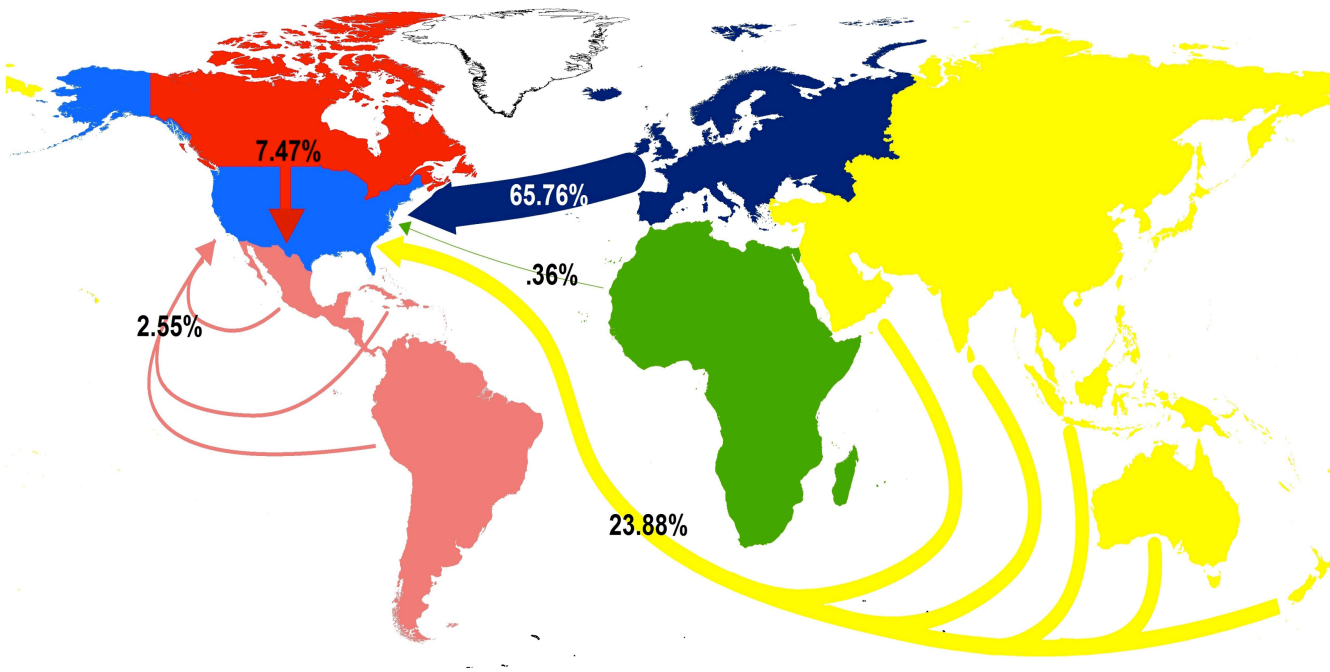
The second avenue of exploration considers the relative shares of global royalty and license fee payments associated with each region, and changes in these shares between 1988 and 2010. Both Canada and Africa have remained relatively insignificant sources of these payments, accounting for 6.8 percent and 1.0 percent, respectively of global royalty and license fee payments in 2010 (see *Figure 4.9.*). Additionally, these regions have exhibited minimal change in their respective global shares over the 22 year period of analysis. Latin America and the rest of the Western Hemisphere exhibited the greatest growth in terms of its relative share of global royalty and license fee payments, increasing from 2.6 percent in 1988 to 11.6 percent in 2010. That being said, the 11.6 percent share is still small relative to larger regions – notably Asia and the Pacific and Europe. Asia and other Pacific nations, including but not limited to Australia and New Zealand, have experienced some decrease in their relative share of global royalty and license fee payments into the United States. This decline is somewhat surprising given the attention garnered by Asia, particularity in the past few years, regarding its rise to prominence in international business and economics. Between 1988 and 2010, this region's share of royalty and license fee payments declined from 23.9 percent to 19.1 percent respectively. Europe's, like Asia and the Pacific Countries,' share of total royalty and license fee payments has declined since 1988. Nevertheless, Europe is and has always been the clear primary source of royalties and license fee payments into the United States accounting for over 60 percent of these flows. In light of this, the following section will focus on Europe as a region and examine different country patterns within the region itself.

Figure 4.9. Regional distribution of royalties and license fee payments into the United States – 1988 (Millions of US$)

	1988	1998	2010
Canada	886	1,657	8,287
Europe	6,670	18,935	52,211
Latin America and Other Western Hemisphere	316	2,552	11,857
Africa	69	311	1,030
Asia and Pacific	3,563	10,329	32,197

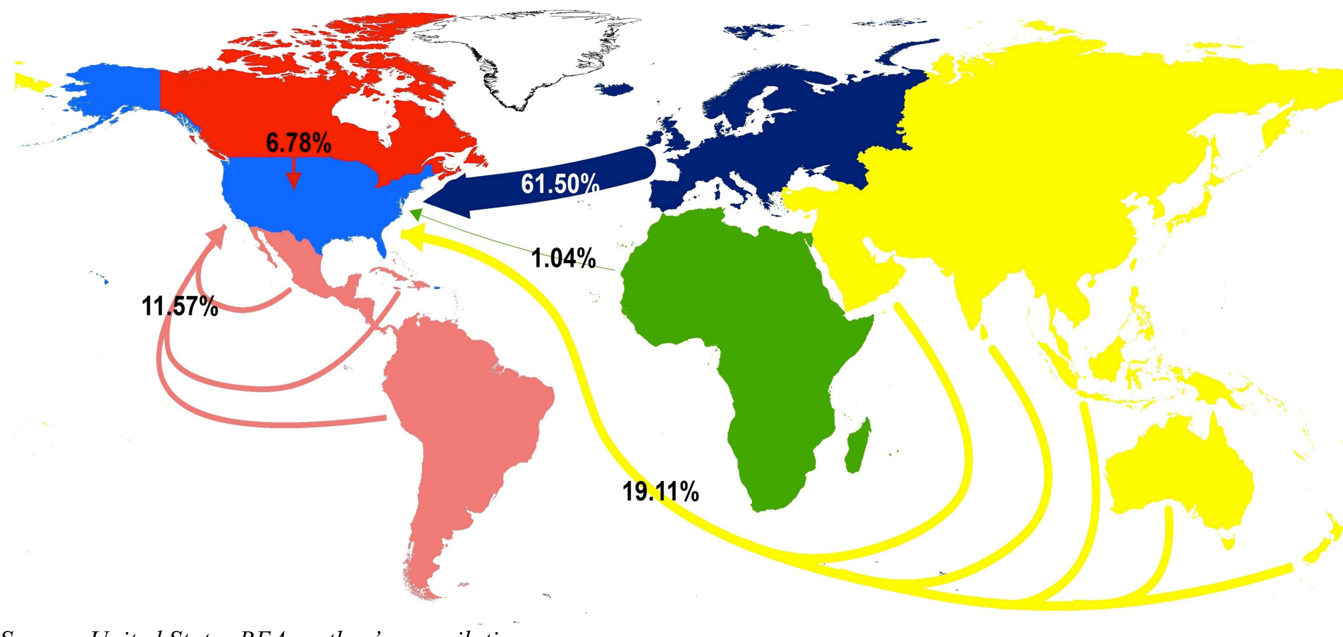
Source: United States BEA, author's calculation.

Figure 4.10. Regional distribution of royalties and license fee payments – 1988



Source: United States BEA, author's compilation.

Figure 4.11. Regional distribution of royalties and license fee payments – 2010



Source: United States BEA, author's compilation.

4.3.2. Europe as the primary source of royalty and license fee payments into the United States

In 2010, Europe accounted for 61.5 percent of all royalty and license fee payments into the United States (see *Figure 4.11.*). While this share has declined marginally since 1988, from 65.8 percent, Europe remains the most significant source of these payments, with royalties and license fees totaling US$ 52.211 billion, an absolute increase of 682.8 percent from 1988. Additionally, as argued earlier, royalty and license fee payments have grown significantly in relative terms from 18.7 percent of Europe's trade in private services with the United States to 26 percent.

In light of Europe's prominence as the primary source of royalties and license fee payments into the United States it is imperative that greater attention be paid to specific nations within Europe and changing patterns over the past 22 years. While the European share of total royalty and license fee payments may have remained relatively constant (and considerably large) over the period of study, there have undoubtedly been changes in the 'source countries' of these payments and consequently the share of European royalty and license fee payments accounted for by each nation (see *Figure 4.12.*).

Figure 4.12. European royalties and license fee payments into the United States

	1988		1998		2010	
	Millions of US$	% of Euro Total	Millions of US$	% of Euro Total	Millions of US$	% of Euro Total
Europe	**6,670**	**100.00%**	**18,935**	**100.00%**	**52,211**	100.00%
Belgium-Luxembourg	344	5.16%	682	3.60%	1,897	3.63%
France	984	14.75%	2,194	11.59%	3,441	6.59%
Germany	1,226	18.38%	3,218	16.99%	6,181	11.84%
Ireland	N/A	N/A	N/A	N/A	12,850	24.61%
Italy	658	9.87%	1,059	5.59%	1,800	3.45%
Netherlands	716	10.73%	1,701	8.98%	3,249	6.22%
Norway	70	1.05%	124	0.65%	274	0.52%
Spain	200	3.00%	556	2.94%	1,518	2.91%
Sweden	159	2.38%	489	2.58%	1,010	1.93%
Switzerland	245	3.67%	890	4.70%	8,281	15.86%
United Kingdom	1,515	22.71%	3,595	18.99%	6,864	13.15%
Other	553	8.29%	4,427	23.38%	4,847	9.28%

Source: United States BEA, author's calculation.

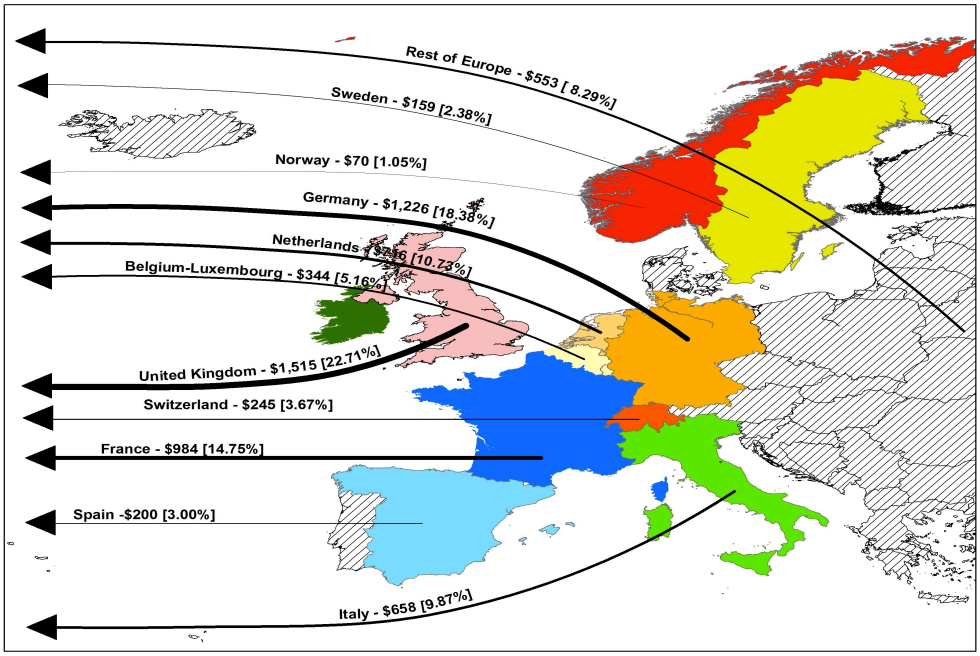
Two countries of particular interest are Ireland and Switzerland. In 2010, Ireland and Switzerland together accounted for US$ 21,131 million in royalty and license fee payments to the United States, which represents 40.5 percent of the European total. Additionally, royalty and license fee payments out of both countries represent a share of trade in private services with the United States significantly greater then any other nation in the world.

In 2010, Ireland paid a total of US$ 12,850 million in royalties and license fees to the United States, making it the largest source of these payments in the world, accounting for 24 percent of all European payments and 12.2 percent of the world's total. What is more interesting perhaps is that this US$ 12,850 million in royalties and license fees represents over half of Ireland's total trade in services with the United States. With the data available, one is unable to determine the exact extent to which these payments have grown since 1988, because Ireland's total in years prior to 2008 was aggregated by the United States BEA into a category referred to as 'Other Europe' (which in 1988 accounted for US$ 533 million of royalty and license fee payments into the United States). That being said, given that Ireland was grouped into 'Other Europe' it can be inferred that (i) the value of royalty and license fee payments in 1988 was relatively small and (ii) Irish royalty and license fee payments into the United States have grown substantially.

Likewise, Switzerland paid a total of US$ 8,281 million in royalties and license fees to the United States in 2010, making it the second largest European source country accounting for 15.9 percent of the European total. Since 1988, payments have increased over 3000 percent from US$ 245 million to over US$ 8,281 million. Like Ireland, these royalty and license fee payments represent the largest proportion of Swiss total trade in services with the United States in 2010, accounting for 40.8 percent of all transactions between the two parties.

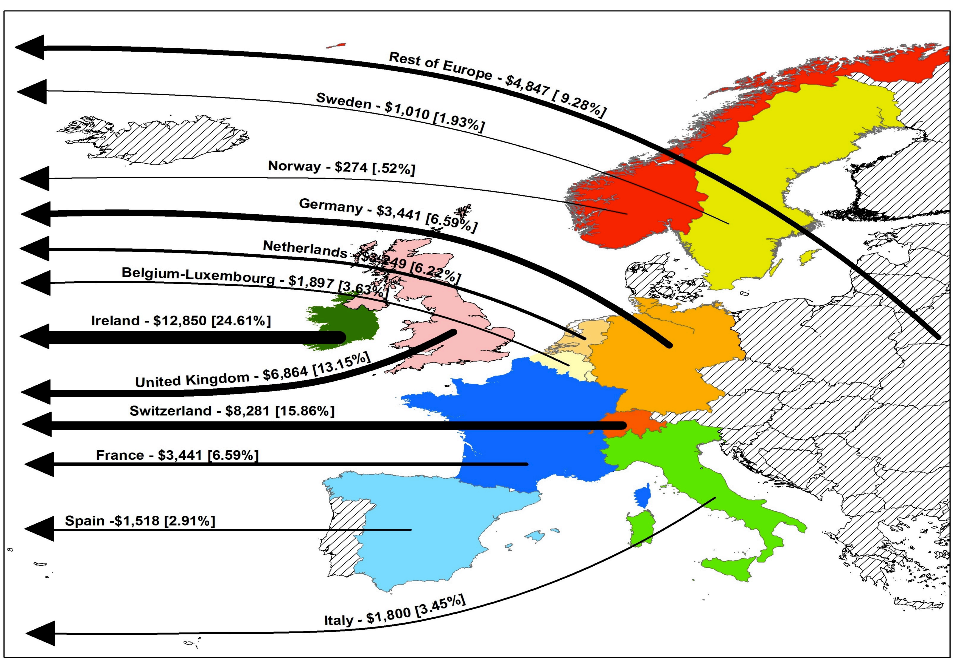
The dramatic absolute and relative increases in royalty and license fee payments into the United States from Ireland and Switzerland are connected to their rules and regulations regarding taxation and more specifically transfer pricing. The changes exhibited by Ireland can be explained by changes to the Irish tax code that increased the appeal of Ireland to American multinational firms, specifically those operating in higher-technology sectors. In 1999 Ireland made changes to its corporate tax regulations that ultimately resulted in the Irish tax code functioning in a way that is particularly favourable to American firms because of the structure of the American tax code (Darby III and Lemaster 2007). The result of this has been American firms transferring increasing amounts of intangible property to their Irish affiliates or subsidiaries to effectively separate their profitability from the region where it is actually derived. This minimizes their exposure to taxation in the United States, takes advantage of Ireland's favourable regulation and increases after-tax profits for these firms. Similarly, Switzerland does not have an provisions in their tax code for transfer pricing activity and has no intention in developing any (PWC 2011) meaning firms can work within international transfer pricing guidelines, benefit from Switzerland's favourable regulations and restructure themselves in such a way that they reduce their taxation and maximize their after tax profits.

Figure 4.13. European royalties and license fee payments into the United States (Millions of US$) – 1988



Source: United States BEA, author's compilation.

Figure 4.14. European royalties and license fee payments into the United States (Millions of US$) – 2010



Source: United States BEA, author's compilation.

4.4. Final thoughts on the data

As anticipated, changes in the nature of international business activity, specifically the emergence and rise to prominence of multinational corporations and the pronounced 'shift' towards the production of 'knowledge and higher-skilled intensive goods' and service based industries, resulting in the increased importance (for a number of reasons) of intangible productive assets and consequently the contractual agreements with which they are associated, has given way to significant changes not only in the magnitude of royalty and license fee payments globally, but the geographic pattern associated with these flows.

Moving beyond the simple, albeit massive, absolute increase in the royalty and license fee payments into the United States, the most interesting, and perhaps telling observation is the relative – that is relative to trade in private services – increase in these payments entering the United States from a global, regional and national perspective. This increase is the principle indication of the rising importance of intangible productive assets. The absolute and relative increases combine to show that not only are firms increasingly reliant on intangible productive assets (absolute increase) but that these firms are shifting these assets around globally more so today than at any other point in time (relative increase).

Furthermore, locational advantages, which range from labour, capital, to laws and taxation regulations have, at least to some extent, changed the geographic pattern of the flow of royalty and license fee payments. Little change has occurred at a regional level. These changes can be broadly summarized by the minimal declines in European and Asian/Pacific nations' royalty and license fee payments and a noteworthy, yet still small relatively small increase in Latin America and the rest of the Western Hemisphere's share of global payments. There have, however, been notable shifts at the national level. In Europe, Ireland and Switzerland emerge as the European 'foci' given their remarkably large absolute and relative shares of European royalty and license fee payments into the United States. Brazil garners some attention, as it is the most notable nation in Latin America and the rest of the Western Hemisphere, exhibiting the largest growth in royalty and license fee payments within that particular region, increasing from US$ 25 million in 1988 to US$ 3,123 million, or 26.3 percent of the region's total, in 2010.

While, the trends observed are consistent with expectations in a qualitative sense, from a quantitative perspective the magnitude of the increases was surprising for no other reason than the increases exhibited occurred over a relatively short, 22 year period of consideration.

5. The Missing Link – Transfer Pricing

5.1. Section overview

Royalty and license fee payments – as a manifestation of the proliferation of transfers of intangible property between affiliated and unaffiliated parties engaged in international business and economic activities – into the United States have grown significantly over the past 22 years. Equally notable, the sources of these payments and their regional distribution have changed dramatically giving way to a discernable geographic pattern that may reflect the displacement of corporate profits from the markets that essentially generate them.

It is understood that the increasing relevance of (i) international trade in services and (ii) the production of, and international trade in, goods where higher levels of knowledge and skilled labour are key inputs and more advanced production processes are defining characteristics have placed emphasis and new relevance on intangible productive assets – both *hard* and *soft*. That being said: the question remains; beyond the well documented obvious production, advertising, distribution and like advantages associated with intangible productive assets, why are so many multinational corporations engaging in contractual agreements to shift or transfer intangible assets elsewhere, to the point where royalty and license fee payments have increased over 2300 percent since 1988? One possible explanation is the ease with which firms can transfer this intangible property and in doing so restructure themselves in such a way that they are able to benefit from transfer pricing structures that effectively shift corporate profits away from the regions where they are 'earned' – that is where human and physical capital, resources, etc. are located – limiting their corporate taxation, and effectively maximizing after-tax profits. The prospect of increases in profit, or more specifically decreased taxation, is sufficient incentive for firms to design and adopt contractual agreements and export their extremely valuable intangible property.

The following section begins by examining transfer pricing practices and business restructurings (and how intangibles are related to both). After outlining these practices, I will provide a 'real-world' context for them through the use of the example of Google Inc. The intention is to explore how multinational firms may be restructuring themselves in a manner that is consistent with international regulation but exploits 'loopholes' in international tax regulation for significant financial gain. In light of these practices I will explore the welfare and development implications of transfer pricing activities in both developing and developed nations. Finally, I will attempt to establish what I refer to as the 'missing link' and connect the well-documented processes of globalization, the proliferation of contractual agreements and the prominence of intangibles assets and transfer pricing activities and their development implications.

5.2. Transfer pricing, business restructurings and the importance of intangibles

Transfer pricing, in the most basic sense, is the "pricing of goods and services that are transferred (bought and sold) between members of a corporate family, including parent to subsidiary, subsidiary to parent and between subsidiaries" (Dean et al. 2008). If regulated in accordance with international standards (i.e. the OECD Transfer Pricing Guidelines), transfer pricing across borders (and their respective tax codes) should not present any extraordinary opportunities for maximizing profits – or more accurately minimizing taxation. That being said, regulating international transfer pricing activity, especially of intangible productive assets is extremely complicated. The ambiguity and challenges associated with doing so has essentially allowed many firms to work within the international transfer pricing regulations to achieve supra-normal profits.

Transfer pricing describes the opportunity that a multinational corporate group has to control its members' local taxable incomes and tax payable by manipulating the prices at which internal transfers of property and services within the group take place. A simple example of this is the use of a distributor in a low tax country by a manufacturer in a high tax jurisdiction. Profits earned from the sale of a good can effectively be shifted to a low tax country where they are taxed according to that country's domestic (favorable) rates by the manufacturer selling the good to a distributor at or close to its manufacturing cost; the distributor realizes both the manufacturer's and its own profit when it sells the good to customers. The after-tax international profits of the group are increased by the tax saving (Dean et al. 2008).

This problem is compounded when inputs in the supply chain are considered to be 'intangibles,' that is manifestations of knowledge or experience. These have less obvious or necessary connections to a particular jurisdiction. Furthermore, accurately identifying and valuing intangible assets can be, quoting Chapter IX of the OECD Transfer Pricing Guidelines, *complex and uncertain* (OECD 2010). Consequently, a firm's intrinsic organizational value –

that is its intangible property – may be readily "shifted" or manipulated to the least tax opportunity.

The transfer of tangible assets – i.e. equipment – is commonly assumed to present minimal challenges related to their valuation and consequently does not pose significant transfer pricing difficulties (OECD 2011). It is for this reason, and because of the emphasis the OECD and others have placed on intangible property, that the preceding chapter has focused on intangible productive assets (and royalty and license fee payments and their inherent connection to these assets) and their importance not only in the evolution of international business and economics more generally, but their role in business restructurings and transfer pricing practices.

A final concept closely tied to transfer pricing activity is business restructuring. That is, firms can essentially restructure themselves to benefit from transfer pricing structures. Chapter XI of OECD Transfer Pricing Guidelines defines business restructuring as the cross-border redeployment by a multinational enterprise of functions, assets and/or risks, and specifies that this may include the transfer or reorganization of valuable intangible property[5] (OECD 2010). Contractual agreements can therefore be thought of as vehicles employed in such restructurings involving intangible property where the rights to use a specific intangible asset are granted in exchange for the payment of royalty and license fee payments which supposedly approximate the value of said intangible.

5.2.1. Putting it all in context – The Double Irish-Dutch Sandwich and Google Inc.

From a theoretical perspective, ambiguities in international regulation and the capabilities of multinational firms today could potentially have significant implications for the taxation of these firms and the taxes collected by nations. While the consolidation of financial statements by multinational firms makes uncovering the transfer pricing activities of these firms exceptionally difficult, if not impossible, one single transfer pricing strategy employed by Google Inc. has garnered significant attention in recent years. The strategy itself and the taxes 'evaded' by

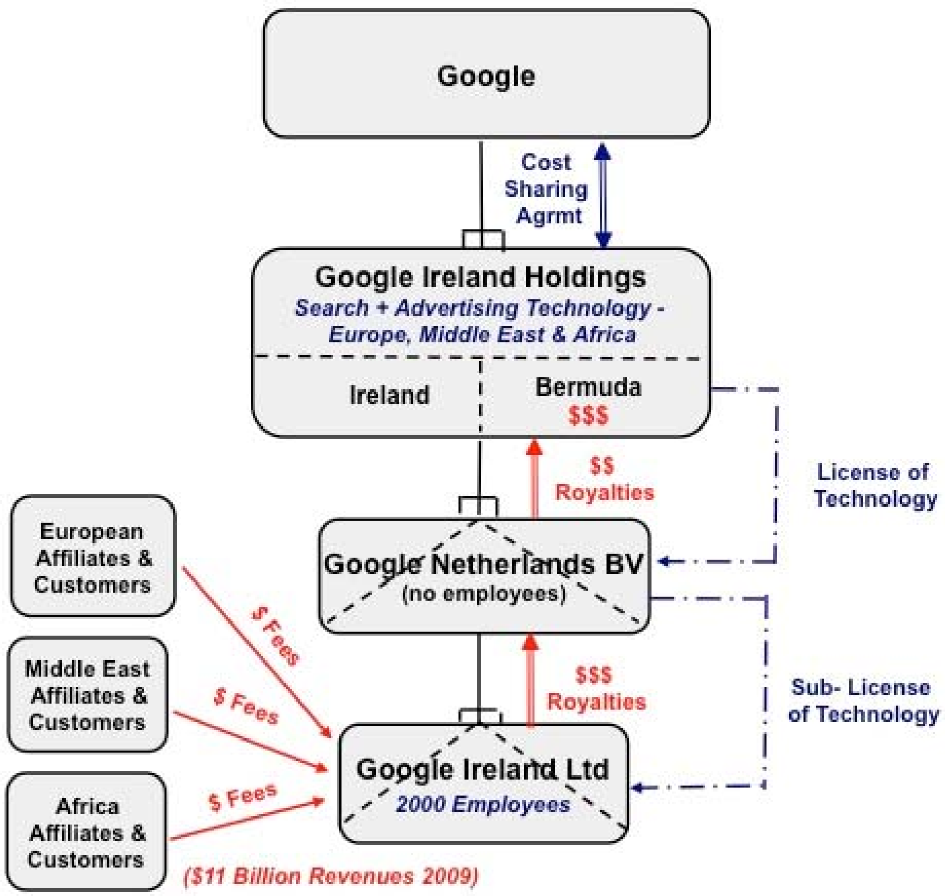
[5] Chapter IX of the OECD Transfer Pricing Guidelines defines business restructurings as "the cross-border redeployment by a multinational enterprise of functions, assets and/or risks. A business restructuring may involve cross-border transfers of valuable intangibles, although this is not always the case. It may also or alternatively involve the termination or substantial renegotiation of existing arrangements. Business restructurings that are within the scope of this chapter primarily consist of internal reallocation of functions, assets and risks within an MNE, although relationships with third parties (e.g. suppliers, sub-contractors, customers) may also be a reason for the restructuring and/or be affected by it."

Google Inc. effectively provide a real world perspective on transfer pricing and its potential implications.

Using a strategy referred to as the "Double Dutch Irish Sandwich," Google Inc. has reduced its global taxes by $3.1 billion over the past 3 years (Bloomberg 2009, Kleinbard 2011). To summarize this strategy, Google Inc. entered into a cost sharing agreement with specially created subsidiary "Google Ireland Holdings," granting them access to Google Inc.'s intangible property. Additionally, "Google Ireland Holdings" made a buy-in payment to Google Inc. for access to specific technology. "Google Ireland Holdings," which is a dual resident company (for tax purposes) – it is an Irish company for United States tax purposes and a Bermuda company for Irish tax purposes – licensed their intangible property to the Dutch firm "Google BV" who in turn entered into a licensing agreement with Ireland's Google Ireland Limited. Google Ireland Limited makes deductible royalty payments to Google BV for the use of the technology and intangible property who make royalty payments, of a comparable size, to "Google Ireland Holdings," which is 'located' in Bermuda – where its "mind and management" are centered – therefore escaping taxation by Ireland. The existence of the Irish and Dutch subsidiaries allows Google to take advantage of a provision in the US tax code referred to as "checking the box" thus making them exempt from US taxation. Furthermore, as a result of EU law, Google avoids Irish withholding taxes due to the existence of Dutch "Google BV." This structure is outlined in *Figure 5.1.* (Kleinbard 2011).[6]

[6] This section only highlights key elements of this strategy. The entire strategy is outlined in greater detail in Kleinbard's *Stateless Income*. Bloomberg's Jesse Drucker also investigated Google Inc.'s strategy. It is important to note that because of financial reporting and disclosure laws the activities of Google are inferred from financial statements and like research. This strategy is also addressed *Double Irish More than Doubles the Tax Saving: Hybrid Structure Reduces Irish, U.S. and Worldwide Taxation* by Joseph B. Darby and Kelsey Lemaster.

Figure 5.1. – Google's Double Dutch Irish Sandwich



Source: Kleinbard (2011)

5.3. Transfer pricing and development – Welfare implications

While the transfer pricing activities of multinational firms fall well within the guidelines outlined by international bodies such as the OECD, transfer pricing has the capacity to distort the tax revenues of developed and developing nations alike. It is important to note that not all loss of tax revenue is attributable to transfer pricing. However, "[transfer pricing] plainly exacerbates [the loss of tax revenue's] magnitude in practice" (Kleinbard 2011).

The implications of these losses are numerous, and perhaps are most obviously manifested in developing nations. Developing nations, like any country, are reliant on tax revenue to develop and sustain infrastructure and programs. These initiatives are seen as imperative for any nation to work its way out of underdevelopment and begin the climb towards achieving development. A healthy tax base is critical for the development of healthcare and education programs, as well as the creation and maintenance of public infrastructure.

In order to maintain a reasonable tax base, nations are forced to rely heavily on what are referred to as *hard to collect taxes* – in contrast to *easy to collect taxes*, which are considered to be the 'traditional' source of a nation's tax revenue (Aizenman 2007). These *hard to collect* taxes include value added taxes and income taxes. As the name would suggest, the costs of collecting these taxes is relatively high and they require nations to make "considerable investments in tax collection, infrastructure and [spend] resources on monitoring and enforcement," effectively rendering these *hard to collect* taxes useless (Aizenman 2007). An empirical study performed by Aizenman found that while many developing nations have managed to shift their tax revenue to *hard to collect* taxes, nations with "a low level of institutional quality" have struggled and in many cases faced decreases in their net tax revenue (Aizenman 2007). Ironically, the nations with low levels of institutional quality are those that are in most dire need of a 'healthier' tax base. All this being said, the loss of tax revenue to transfer pricing practices is not a problem confined to the developing world.

A proposed solution, or at the very least, first step to remedying this problem is increasing the transparency of financial reporting for multinational corporations. At the moment, firms are only required to provide consolidated financial reports, meaning that it is impossible for anyone, including governments, revenue agencies or other organizations, to determine where taxable economic activity is occurring and where profits are not only generated, but declared. This lack of transparency, coupled with the increasing mobility of intangible factors of production (i.e. intellectual property), makes it remarkably easy for multinational firms to shift business activity, and ultimately be taxed, wherever they choose – the most 'favourable' location from both a production and taxation perspective (Kleinbard 2011).

Michael C. Durst (2010) highlights issues associated with transfer pricing abuses, citing a flawed system, set of rules and more specifically a dated, fundamentally unsound arm's length principle, as the primary culprit. He asserts that governments in both the developed and developing world are "hobbled" by the current system and that, specifically developing nations' governments, given the degree of entrenchment of the current system, face considerable pressures to adopt it, which ultimately proves detrimental to their development. He argues that the problem with the current system lies not in its implementation but its flawed central premises

– the notion that transactions should be benchmarked against those of an unrelated firm and the understanding that subsidiaries and affiliates of firms are to be treated as entirely separate entities – and that because of this the system is "doomed to fail" (Durst 2010). It is for this reason, he argues that the current system must be effectively overhauled and replaced with a system that is more efficient, more fundamentally sound and provides significantly less, preferably no, opportunity for manipulation. The only catch however is that the current system is so deeply entrenched, in part because of multinational firms' (many of which carry significant political power) preference for this standard. Durst, like many others has been critical of the current system and calls for a reconsideration of it in light of its flaws, proposing an alternate solution referred to as formulary apportionment. In its simplest form, adopting formulary apportionment would mean "taxable income is apportioned among taxing jurisdictions not based on theoretical judgments of economists and other tax practitioners, but on observable facts such as the extent to which multinational enterprises have incurred costs and generated sales revenues in different jurisdictions" (Durst 2010).

5.4. Tying royalty and license fee payments to transfer pricing – What can be inferred

While the activities of all multinational corporations are documented and made publicly available via various financial statements and like publications, these reports are highly consolidated making it impossible to quantify the transfer pricing arrangements and structures employed by these firms. That being said, through the examination of data that is, to a great extent, related to business restructurings and transfer pricing activity, it is possible to draw aggregate level conclusions regarding the existence of transfer pricing and its geographic patterns.

Contractual agreements concerning the transfer of intangible property and intangible productive assets in exchange for royalty and license fee payments are instrumental in a firm's ability to restructure itself and effectively shift 'its profitability' and therefore tax jurisdiction to maximize its after-tax profits. The data employed in the preceding study at the very least acts a proxy for the geographic proliferation of contractual agreements, which one can assert is a reflection of business restructuring and subsequent transfer pricing activity.

The remarkable increases in royalty and license fee payments into the United States exhibited, in both absolute but more importantly relative terms, by specific European countries, notably Ireland and Switzerland, are not random. Both Ireland and Switzerland present multinational corporations the opportunity to benefit greatly from transfer pricing structures given their respective tax codes as discussed (KPMG 2011; PWC 2011; Darby III and Lemaster 2007).

Most broadly, the data concerning royalty and license fee payments into the United States reflects the shifting of intangible property – by means of contractual agreements and like structures – from one region to another. Regions are associated with specific characteristics that allow capital, tangible and intangible to achieve its maximum potential, whatever that may mean. The benefits of these characteristics may be more readily apparent in the case of physical capital where, for example, firms requiring educated, highly skilled labour may benefit from proximity to universities or training facilities, or firms reliant on a production process requiring large quantities of a specific resource input may benefit from close proximity to said resource. Obtaining these 'locational' advantages may be as simple in principle as relocating capital. That being said, the relocation of physical capital – especially factories, machinery, and any other large pieces of not readily mobile physical capital – can prove extremely costly. Another 'locational' advantage that has emerged as a principle consideration is the corporate tax rate and the tax regulations of countries within which firms operate or would like to operate. Firms operating in countries with higher tax rates are obviously liable to greater taxes and consequently decreased after tax profits. The reality of 'locational' advantages, their defining characteristic really, is that no one region possesses all characteristics and advantages firms seek, forcing firms to evaluate the costs and benefits of a particular location opting to realize some efficiencies while forgoing others.

In light of this, one question emerges as critical: how does one benefit from as many 'locational' advantages as possible while avoiding the costs of shifting capital? That is, can, and if so, how, does one move the factory without actually moving the factory? The answer is with a pen.

Through the use of contractual agreements firms can more or less costlessly transfer their extremely valuable intangible property globally. In transferring intangible property, firms effectively are able to separate the profits earned from the production of a good or service from the region where, for all intents and purposes, they are actually produced. That is, where the economic activity, assets, risks, or functions corresponding to production are located, which would typically be in a higher tax jurisdiction, shifting profits to a low tax jurisdiction (OECD 2012). Regulations exist, notably the OECD Transfer Pricing Guidelines, that seek to govern the ways in which firms act – that is restructure themselves and organize their internal transactions. However, as discussed, ambiguities in the regulation regarding the valuation and transfer of intangible assets have effectively permitted firms to organize themselves in such a way that, to put it simply, places each element of the 'production process' in the most favourable region. Changes in the global economy and international business both in terms of *how* trading and interactions take place and *what* is being traded/interacted have only exacerbated the inadequacy of global business restructuring and transfer pricing governance.

As a result, firms are re-drawing borders, replacing clearly defined geographic spaces with economic ones. Geographic spaces are not only defined by the political borders that contain them, but the regulations, laws and systems of governance associated with them. When firms are able to 'pick-and-choose' regions, drawing on their own unique advantages, they effectively redefine their economic spaces, and in doing so act in accordance with regulations that provide them the greatest benefit.[7]

When firms are able to shift profits away from the economic activities and assets with which they are associated, they are effectively stripping that region of much needed tax revenue. Some tax, of course, will be paid in that jurisdiction; however, the amount is often not proportional to the activity that exists in that region. Developing and developed nations alike are reliant on tax revenue, to sustain infrastructure, public programs, etc. This loss is most obvious in developing nations, but also has implications for developed ones. The OECD and other international bodies have acknowledged this issue, and are taking steps to rectify it, as evidenced by their recent publications, conferences and actions. However, there is no perfect, nor clear solution.

[7] Several geographers, notably Perroux (1950) and Friedman (1988) have explored the differences and tensions between economic and geographic space.

6. CONCLUSIONS

It is apparent that changes in the importance of intangible assets over the past 22 years have had significant effects on the shifting of these assets globally. Firms, principally multinational firms, many of whom are dependent on these intangibles as their primary source of profitability, are realizing numerous efficiencies related to the specific locations within which they are operating. As discussed, advances in communications and transportation technologies dramatically altered and will continue to alter the ways in which firms conduct business. It is no longer sufficient for large firms to operate domestically if they wish to be competitive and thus firms begin to seek out regions where they can not only maintain their competitiveness but improve their competitive position, by way, for example, of tapping into pools of labour of a certain quality or accessing other 'local' resources in order to 'get ahead' so to speak. The desire to operate globally has not changed. The nature of business and international trade, however, has. That is, changes in what is produced and more importantly how it is being produced have placed a premium on highly mobile intangible assets. With these assets come new opportunities. The limits on their mobility are few and their potential for allowing firms to realize numerous locational advantages – relating to, among other things, local rules and regulations – is tremendous. Simply put, firms are, and will continue to, transfer their assets globally. Historically, this may have meant physically moving a production facility or other pieces of physical capital. More recently, however, situations are arising with increased frequency, especially in the knowledge intensive sectors (both goods and services), where firms are able to shift only their intangible property (patents, trademarks, expertise and *soft* intangibles) and achieve the same result – from a taxation and consequently after-tax profit sense – as had they shifted their tangible property to that same location.

The reasons for firms to transfer intangible property are numerous, varying across industries, regions and firms. Based upon the literature studied, one can reasonably assert that many firms are seeking to reap the benefits of regulatory ambiguities. The trends in the data regarding royalty and license fee payments and by extension the shifting of intangible property are very clear.

Looking beyond the massive absolute growth in these payments entering the United States from foreign parties, the increase in these payments relative to corresponding data regarding trade in private services clearly illustrates just how important these types of assets have become to multinational firms. Additionally, as anticipated, changes regarding royalty and license fee payment activity into the United States were not uniform. Certain regions and nations emerged as the primary recipients of intangible property from American firms (as reflected by the royalty and license fee payment data). Again, the specific reasons for the payment 'flows' producing such a distinct pattern can only be inferred from the literature. However, it should not be treated as coincidence that the two nations – Ireland and Switzerland – (i) accounted for the largest percentages of global royalty and license fee payments into the United States, (ii) have exhibited massive growth in these payments in absolute terms and (iii) have a well above average percentage of their corresponding total trade in private services with the United States accounted for by royalties and license fee payments. These two nations are 'notorious' for their 'favourable' corporate regulations and laws.

The preceding study sought to achieve two objectives. The *first* was to explore increases in, and geographic proliferation of royalty and license fee payments as a proxy for the transfer of intangible property out of the United States to related (subsidiaries) and unrelated parties over the 22 year period from 1988 to 2010. Limitations regarding the accessibility and availability of datasets forced the study to use aggregate level data, and while this did not negatively influence or restrict the results or conclusion drawn, it is worth noting that two avenues for further exploration arise from this work. The *second* objective was to explore business restructurings and transfer pricing practices as a possible explanation for the trends observed in the data regarding royalty and license fee payments into the United States.

The first path I would suggest for further study would be to adopt a similar approach as the preceding study, working however with firm level or even industry level data. This would allow one to draw more precise conclusions regarding the types of firms and industries where the shifting of intangible property is of greatest relevance. Conclusions and inferences could then be drawn regarding the characteristics of those specific firms and industries and their relationship with intangible assets.

The second avenue for further research builds upon the results of the preceding study and explores the ways in which the recipients of the intangible property from the United States exploit that intangible property, and more importantly the value generated in doing so. The shifting of intangible property out of the United States to other regions is the first step in exploitation of these assets. While the tax savings achieved by simply shifting that property away from the higher tax jurisdiction, that is the United States, are substantial and in themselves provide sufficient incentive to transfer intangible property, the exploitation of these intangible assets in a way that is not accurately approximated by the royalty and license fees paid back to the parent corporation likely provides extraordinary opportunity for additional profit. In light of this, should one have the capacity to work with detailed firm level data, quantifying the gains from such activities would provide interesting insight into the extremely complex puzzle that is business restructuring and transfer pricing.

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